CHITKARA UNIVERSITY
PUNJAB

GUIDELINES ON WATER RESOURCE MANAGEMENT IN CAMPUS

CU/PB/A&M/2/2018

1. Water, which was once an abundant natural resource, is now becoming a more valuable commodity. This could mostly be attributable to droughts or overuse. One of the most important elements for the preservation of life is clean water and if not managed properly, this element could be a shortage in the near future. Proper usage and measures of water conservation can go a long way to help alleviate these looming shortages

2. Water resource management is the management of water resources under set policies and regulations. As a responsible organizationand with an aim to providing utmost importance to a sustainable campus, Chitkara University shall ensure the required care and attention in accounting for water consumption, best utilization of water, least wastage and also that the water supplied to the stakeholders is clean.

3. Source of water – Fresh water is pumped from 2 bore wells in the University campus. The water consumption would depend on the strength of the campus at any point of time. The water is pumped into the Main overhead tank and then further distributed to all the buildings. Water from all buildings is routed to one of the Sewage Treatment Plants in the campus for treatment. Further, the rainwater is also captured in the Rainwater Harvest Pits in the campus.

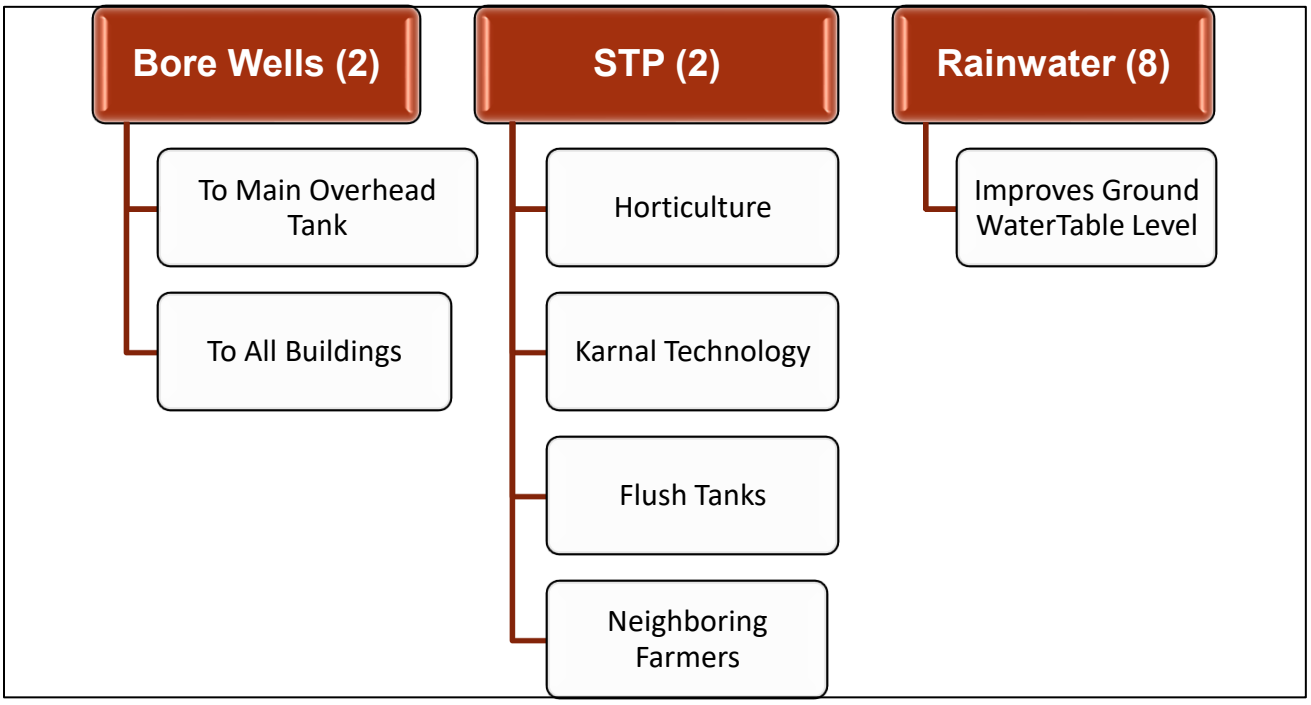

Fig 1 – Sources of Water in Campus

4. Records of Water Consumption - The meter readings of water drawn and used should be maintained and monitored. The meter reading shall further help in Management Information System to analyse the utilization pattern of water and to consider steps to reduce water usage as much feasible, and to arrest water wastage, if any. The water tax is paid according to the water drawn from the bore well. General Maintenance department should monitor if the water motors are in working condition and in case of any electrical concern, the matter should be taken up with the Electrical Maintenance Team immediately for a solution.

5. Management of Water Resource- A penny saved is a penny earned and the same applies for water also. Hence, not only should we aim to ensure best utilization of water but also adopt maximum efforts for saving of water and for reusing treated water.

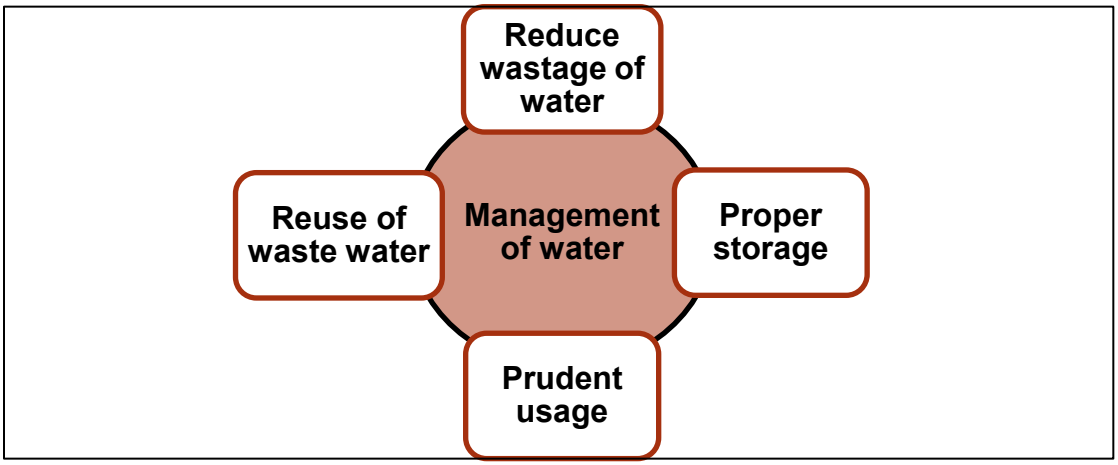

Fig 2 – Management of Water Resource

A. Reduce Wastage of Water

i. Reduce leaks in washrooms, pantries, labs and other interior venues - Every drop of water counts. A minor leak can lead to gallons of water being wasted and hence these should be arrested as soon as possible. Utmost priority should be provided to cases of leaks in washrooms or any interior venue like pantry or labs. Every staff and student should be encouraged to switch off taps that are not in use and to also report to the Building Supervisor in case any leak is noticed. Matter pertaining to “Reduce Water Wastage”, “Switch off taps after use”, “Report cases of leakage ASAP”, etc. should be posted in all washrooms and labs.

ii. Reduce leak of water in exterior venues - Leaks of water pipes used for horticulture or at construction sites also need to be checked for leaks and immediate actions initiated to attend to the leaks. Else there could be immense loss of water as the chances of these leaks going unnoticed are higher. Further the water supply provided at labor residential areas should also be checked closely.

iii. Reduce wastage of water from tanks – The ball cock systems of all flush tanks and water coolers as well as desert coolers should be checked periodically to ensure no wastage of water. Sensor based system on main overhead water tank and for all overhead tanks of buildings should be installed and its serviceability checked, to reduce the chance of wastage of water. Complaints, if any, should be addressed at the earliest.

iv. No washing of private vehicles should be permitted in the campus. Only authorized official vehicles should be permitted the same and these taps should be of low flow.

v. When overhead tanks are to be cleaned, the water supply to these tanks should be stopped a day or two in advance (based on capacity and usage of the concerned building), so that no water is wasted.

vi. Aerators for all taps should be ensured to reduce usage of water, which will lead to prudent utilization of water.

vii. Water-saving shower heads or flow restrictors –Efforts should be made to use plumbing infrastructure and fittings that enable flow restrictions and enable reduce wastage of water.

viii. Usage of waterless urinals and sensor-based taps can also reduce usage of water.

B. Proper Storage of Water

i. The Main Overhead Tank of the campus is a covered tank to ensure the water remains clean always. It should be well maintained and cleaned periodically. The overhead tanks ofall buildings should also be well maintained. These

should be cleaned periodically, and all steps should always be ensured to keep them closed to avoid entry of any wastage into the tanks.

ii. The water should be tested for its quality from an authorized laboratory at regular intervals. And monthly testing of water (of water coolers as well as STP treated water) should be done from in-house resources like the College of Pharmacy or the CURIN Water Lab.

C. Prudent Usage

i. Water usage should be done prudently. Where 1 litre of water can solve the purpose with no adverse effect on the result, usage of 1.5 litres of water would not be considered prudence. Even in case of flush tanks, adjusting the ball cock level to reduce usage of water should be considered. Usage of filled plastic used bottles in flush tanks can also reduce the water being stored for further usage.

ii. Prudence is to ensure that water from fountains (for cleaning of fountains), is routed to the gardens / grounds.

D. Reuse of Wastewater

i. By funneling recycled water into the system, we can reduce the amount of potable water being used. At present there are 2 STPs in the campus of capacities 250 KLD and 1 MLD. There should be sufficient STPs to treat water usage (based on the strength of the campus and usage pattern). The wastewater treated in these STPs should be further reused for horticulture purpose. Lines are already provided for the same. This treated water could be further treated and used for flushing purpose. Many buildings, including hostels are provided tanks for dual plumbing system. Aim should always be made for maximum re-utilization of wastewater.

ii. The treated wastewater is used for Karnal technology also. Further nearby villagers, who approach the campus for treated water support for their fields should also continue to be supported with treated water supply to their fields.

6. Clean Water– Water provided for all purposes should be clean and usable.

i. There should be sufficient drinking water points in the campus, with easy access for students and staff. This should include corridors of all academic areas, parking areas, hostel corridors, mess, pantries etc.

ii. The water coolers should provide filtered drinkable water. The water supplied in washrooms should also be of acceptable quality.

iii. Cleanliness of the water tanks (of water tanks and overhead tanks) should be ensured with periodical cleaning. Further the water tanks of water coolers should be locked to eradicate any chance of the water getting polluted.

iv. Testing of water quality is strongly recommended at regular periods.

7. Rainwater Harvest Pits – There are 8 Rainwater Harvest Pits in the campus at present. They help capture the rainwater and thus improve the ground water table level. The timely servicing of the pits should be ensured. Rainwater Harvest Pits should be commensurate with the permeable surface and open area in the campus.

8. There is no substitute for clean water. Water is a precious resource and is not an infinite. It must be, without any doubt, managed wisely. As an organization we should ensure that the stakeholders are provided this facility with easy access and at the same time,all measures should be initiated to ensure there is no wastage of water.